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STATE OF CALIFORNIA – NATURAL RESOURCES AGENCY
EDMUND G. BROWN, Jr., *Governor*

CALIFORNIA ENERGY COMMISSION
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August 27, 2014

George L. Piantka, PE
NRG West Director, Environmental Business
5790 Fleet Street, Suite 200
Carlsbad, CA 92008

Dear Mr. Piantka:

CARLSBAD ENERGY CENTER PROJECT AMENDMENT (07-AFC-6C) DATA REQUESTS, Set 2 (#31-58)

The California Energy Commission staff continues to review the petitions to modify the licensed Carlsbad Energy Center Project (CECP), and requires additional information to supplement our environmental analyses pursuant to Title 20, California Code of Regulations, section 1769(a)(1)(E). The California Energy Commission staff seeks the information specified in the enclosed Data Requests. The information requested is necessary to: 1) more fully understand the project; 2) assess whether the facility will be constructed and operated in compliance with applicable regulations; 3) assess whether the project will result in significant environmental impacts; 4) assess whether the facilities will be constructed and operated in a safe, efficient, and reliable manner; and 5) assess potential mitigation measures.

This (second) set of Data Requests includes the following technical disciplines: Cultural Resources (nos. 31-39), Public Health/Worker Safety Fire Protection (nos. 40-47), Soil and Water Resources (nos. 48-52), Traffic and Transportation (nos. 53-57), and Visual Resources (no. 58). Staff requests that responses to the enclosed Data Requests be submitted on or before September 25, 2014. Given the aggressive schedule of discovery for this proceeding, staff strongly encourages the petitioner to submit thorough data responses as soon as possible in order to allow the topics addressed in the following pages to be publicly discussed at an all-day public workshop tentatively scheduled for late September in Carlsbad.

If you are unable to provide the information requested, need additional time, or object to providing the requested information, please send a written notice to both Commissioner Karen Douglas, Presiding Committee Member for the Carlsbad Energy Center Project Amendment, and me, within 20 days of receipt of this letter. The notification should contain the reasons for not providing the information, the need for additional time, and the grounds for any objections. If you have any questions, please call me at (916) 654-4894, or E-mail me at mike.monasmith@energy.ca.gov.

Sincerely,

Mike Monasmith
Siting Project Manager

Enclosure:

Technical Area: Cultural Resources
Authors: Braun, Matthew (Archaeology); Mourkas, Melissa, ASLA, M.A. (Built Environment)

INTRODUCTION:

Staff has reviewed the project owner's May 2, 2014 Petition to Amend (PTA) the Carlsbad Energy Center Project (CECP) 07-AFC-6C. According to the relevant sections of those documents, the proposed changes to the May 31, 2012 Licensed CECP would result in the following effects to cultural resources:

- Reconfiguration of the electrical generation equipment of the CECP from a 530-MW, dual combined-cycle facility into a 632-MW (net), 6 unit, simple-cycle combustion turbine facility;
- The demolition of Encina Power Station (EPS) Units 1 through 5 and associated facilities west of the railroad tracks;

Reconfiguration specifics include:

- Expansion of the footprint of the licensed CECP from 23 acres to 30 acres by adding acreage beneath above-ground fuel oil storage tank (AST) 4;
- Use of an existing railroad spur for select heavy and oversize equipment deliveries during the amended CECP construction period of 24 months (oversize equipment would include the GE LMS 100 turbines);
- Expansion of the Encina 230kV switchyard;
- Construction of a new 3,700-foot pipeline connecting to Title 22 reclaimed water originating at the Carlsbad Recycled Water Facility, located at the Encina Wastewater Authority complex, approx.1.5 miles south of the EPS;
- Use of space of demolished AST's 1 & 2, for amended CECP general construction and laydown.

BACKGROUND: ARCHAEOLOGY

Archaeological staff has reviewed the PTA, as well as the original September 2007 Application for Certification (AFC), associated cultural resources documents, the September 2008 Project Enhancement and Refinement (PEAR) document, the November, 2009 Final Staff Assessment (FSA), the August, 2011 Supplemental Staff Testimony, and the May 31, 2012 Commission Final Decision for the original proceeding. Staff finds that the PTA does not provide sufficient information necessary to analyze the proposed amendment's potential impacts on archaeological resources for the following reasons:

- There is no cultural resources technical report associated with the February 5, 2014 survey mentioned in the PTA (CECP 2014a:5.3-2). Without the technical report, staff

is unable to assess the adequacy of the survey and thus any potential impact to cultural resources that could be affected by the proposed project;

- It is unclear which specific areas were surveyed during the February 5, 2014 cultural resources survey because there is no map documenting this survey effort;
- There does not appear to be any attempt by the project owner to consult with Native American groups in the project vicinity, or with historic cultural attachment to the area (CECP 2014a:Section 5.3);
- Archaeological site CA-SDI-16885 was initially recorded in 2003, was last updated in 2005, and is located within one of the proposed construction laydown areas (Carlsbad Energy Center 2014a:5.3-2). Survey efforts by the project owner on February 5, 2014 did not relocate this approximately 14,400-meter^2 site, and thus the site was not evaluated for significance by applying the California Environmental Quality Act (CEQA) criteria for historical or unique archaeological resources. The depth and horizontal (subsurface) extents of the site have not been determined: and,
- Archaeological site CA-SDI-6751 was most recently recorded as being contained entirely within the Atchison, Topeka & Santa Fe railroad right-of-way. However, to date, CA-SDI-6751 has not been evaluated for significance by applying CEQA criteria for historical or unique archaeological resources. The depth and horizontal (subsurface) extents of the site have not been determined.

Staff requests the following information to complete its archaeological analysis of the PTA.

ARCHAEOLOGY DATA REQUESTS

31. To partially remedy the first two issues above, please provide the cultural resources technical report associated with the February 5, 2014 cultural resources survey. Please ensure this report includes record searches conducted at the South Coastal Information Center and San Diego Museum of Man, as well as a map detailing those areas that were subject to pedestrian survey. Please prepare the report so that it conforms to the standards described at Title 20, California Code of Regulations, section 1704(b)(2), Appendix B(g)(2)(C). The project owner may choose to combine the cultural resources inventory report with the test excavation report or documentation of artificial fill (as appropriate) requested in Data Request 37c and 37d below.
32. Please update the DPR 523 forms for archaeological sites CA-SDI-6751 and CA-SDI-16885. The project owner should compare and document the depth of fill that Magorien (2006: Figure 1) recorded in the licensed CECP project area with the proposed depths of construction and excavation in the vicinity of the previously known locations of these cultural resources.
33. If the proposed excavations described in the PTA would not exceed the depth of fill, please:
    a. Provide documentation of the depth of excavation entailed (if any) for each component of the PTA; and,

b. Also describe the depth of existing fill on the project site and substantiate this description by citing relevant plans or other sources. A graphical representation of the depth of fill in areas of proposed excavation would be highly valuable and expedite staff's review and resolution of this issue.

34. If the proposed depth of excavation associated with development support activities would extend below the depth of fill at these locations, please:

    a. Provide an archaeological testing plan that conforms to the standards described in *Guidelines for Archaeological Research Designs* (OHP 1991) for staff review and approval. The purpose of the testing plan is to establish site-specific thresholds for whether CA-SDI-6751 and CA-SDI-16885 meet the CEQA definition of a historical or unique archaeological resource. The research design shall be prepared by an archaeologist that meets the Secretary of the Interior's professional standards for archaeologists (see *Archeology and Historic Preservation: Secretary of the Interior's Standards and Guidelines*, 36 C.F.R. 61). The research design must include the following:

        i) A statement of the problem(s) and research goals;

        ii) A statement of methods to achieve the research goal;

        iii) A statement regarding how the results will be reported;

        iv) Maps depicting the site boundaries and locations of excavation units for each site (maps shall meet the requirements laid out for DPR 523 Sketch Maps, OHP 1995:15, but do not need to be generated on the site form template);

        v) An overlay of the proposed work areas and access roads on the aforementioned sketch map;

        vi) A schedule for implementation of the research design; and,

        vii) The preparer's résumé and the résumés of other key staff that are expected to implement the research design.

    b. Implement the research design described in bullet "a." immediately above, upon staff approval of the document.

35. Following completion of the archaeological investigation specified above, please provide, for staff's review and approval, an archaeological evaluation report that identifies the methods employed and results of the investigation. The report shall conform to the content requirements of *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (OHP 1990) and contain the following:

        i) A description of the research design and the methods employed during the study;

        ii) A description of the study results;

        iii) Recommendations as to eligibility for consideration as a historical or unique archaeological resource for each site investigated;

iv) A location map on a U.S. Geological Survey, 7.5-minute topographic quadrangle;

v) For archaeological sites that appear to meet the criteria of historical or unique archaeological resources, a description of whether the proposed excavation, construction, and demolition activities would result in impacts to them (supplement the impact discussion with exhibits and quantify the estimated quantity of archaeological materials that would be damaged or removed);

vi) Proposed mitigation measures for affected archaeological sites. Supplement the mitigation discussion with exhibits as needed;

vii) A Sketch map (see sub-bullet "a." to data request no. 34 above) that depicts the sampling locations and the location of any newly identified archaeological materials; and,

viii) Revised DPR 523 forms.

BACKGROUND: BUILT ENVIRONMENT

Built environment staff also reviewed the PTA, as well as the original September 2007 Application for Certification (AFC), associated cultural resources documents, the September 2008 Project Enhancement and Refinement (PEAR) document, the November, 2009 Final Staff Assessment (FSA), the August 2011 Supplemental Staff Testimony, and the May 31, 2012 Commission Final Decision for the original proceeding. Given the expansion of the areas slated for demolition west of the railroad tracks, proposed expansion of the CECP footprint by 7 acres for new construction purposes, and the complexity of the proposed project changes outlined in the preceding **INTRODUCTION** section, staff finds that the PTA does not provide sufficient information to analyze the proposed amendment's potential impacts on built-environment resources. Summarized below are the areas where the project data is insufficient for staff to complete an analysis of the potential impacts to the environment:

- The licensed project included a very narrow built environment survey area confined to the immediate construction area. In September of 2007, JRP (JRP 2007) conducted an architectural field survey to assess the potential for historic architectural resources at the licensed project location. The architectural study area considered the location of above-ground fuel oil storage tanks (AST's) 5, 6 & 7 (footprint where the 23-acre Licensed CECP project was permitted to be constructed after tank removal) the Cannon Substation, and a segment of the former Atchison, Topeka and Santa Fe Railway's (ATSF) tracks, now owned by North San Diego County Transit District (Carlsbad Energy Center et al. 2008:5.3-15; CEC 2009:4.3-13). AST's 5, 6 & 7 and the Cannon Substation were not evaluated for their significance as historical resources because they were not 50[1] years of age at the time of the survey in 2007. The segment of the ATSF railroad tracks within the EPS boundaries was the only built environment resource

[1] JRP limited their investigation to resources 50 years or older. The Energy Commission uses 45 years or older in conformance with state standards for evaluating historic properties.

evaluated for its potential as a historical resource under CEQA. It was concluded that the ATSF railroad segment was not eligible for listing on either the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR). Fuel Tanks 5, 6 and 7 (1968–1976) (JRP 2007i) or 1972–1977 (JRP 2014; 15) and the Cannon Substation (1968–1976) (JRP 2007:i) are now, in 2014, 45 years or older.

- The proposed amendment would be implemented within the bounds of the EPS, which was constructed in the 1950s and is of historic age. The project owner indicates in the PTA that the EPS and affiliated structures have been evaluated for significance under CEQA (CECP 2014a:5.3-2). The project owner subsequently docketed the PTA-referenced historic architectural survey and evaluation on July 14, 2014. The proposed amendment would affect the EPS by demolishing most of its structures and associated facilities, including the fuel tanks proposed for removal in the April 29, 2014 Petition to Remove (CECP 2014b). Several known structures associated with the EPS were not included in the survey and evaluation. These are noted in Tables 1 and 2. Demolition of historic-age structures could cause significant and unavoidable direct, indirect and cumulative impacts on the environment.
- The proposed PTA would require installation of a new ocean water intake pipeline for the ocean water needed for the Amended CECP purified ocean water system (CECP 2014a:2-21). Construction of this pipeline could cause significant and unavoidable direct, indirect, and cumulative impacts on the environment.
- The proposed amendment would alter the use of the EPS ocean water intake facility in Agua Hedionda Lagoon, which was constructed in 1954 concurrent with the EPS, and thus of historic age. Isolation of part of the intake facility would occur by blocking it with concrete plugs and capping the pipes (CECP 2104a:2-38). The Carlsbad Seawater Desalination Project (CSDP or “Poseidon”) will require 304 mgd of ocean water to produce 50 mgd potable water, and will utilize a modernized portion of the existing EPS intake facility on the southern end of the outer Agua Hedionda Lagoon. This would also result in the removal and demolition of associated piping, valves, filters and other above and below-ground structures. Demolition/alteration of historic-age structures could cause significant and unavoidable direct, indirect, and cumulative impacts on the environment.
- As proposed, the amended CECP would enlarge the footprint of the 230kV SDG&E Encina switchyard located west of the railroad track and adjacent to the large EPS Enclosure Building (CECP 2104a:2-4). This enlargement may require removal of existing facilities or other ground or structural disturbance, which have not been identified by the project owner in the PTA. Demolition of associated historic-age structures could cause significant and unavoidable direct, indirect, and cumulative impacts on the environment.
- The proposed amendment would construct a new 36-inch pipeline to convey reclaimed water from Carlsbad Recycle Water Facility located at Encina Wastewater Authority complex. The pipeline would connect at Cannon Road and proceed approximately 3,700 feet north along the Avenida Encinas right of way to the project site just north of the planned control facility (CECP 2104a:2-16).

Construction of the pipeline could cause significant and unavoidable direct, indirect, and cumulative impacts on the environment during trenching activities.

- The proposed amendment does not evaluate adjacent properties for historic significance. Demolition of the EPS and new construction could both cause significant and unavoidable direct, indirect, and cumulative impacts on the environment.

With the information provided in the PTA and the data gaps outlined in the list above, staff concludes there is insufficient data to complete an analysis of the potential for environmental impacts in the area of built-environment cultural resources, that would not be mitigated by the conditions of certification in the current license described in the Final Decision (CEC 2012a:7.3-7–18). Staff requests the following information to complete its built-environment analysis of the PTA.

BUILT-ENVIRONMENT DATA REQUESTS

36. Please conduct a built-environment cultural resources survey of the areas in which the amendment activities would take place, including the one-parcel boundary established by staff for this PTA (see Figure 1). The survey shall conform to the standards established at Title 20, California Code of Regulations, sections 1704 and 2012, Appendix B(g)(2)(C).

37. The PTA references an architectural survey of the EPS completed by JRP on February 25, 2014, on page 5.3-2. This report was docketed on July 14, 2014 (JRP 2014). The EPS was evaluated by JRP and was not found to be a historical resource for the purposes of CEQA. Consistent with Title 20, California Code of Regulations, sections 1704 and 2012, Appendix B(g)(2)(C)(iii) and *Instructions for Recording Historical Resources* (OHP 1995:9), the survey and evaluation needs to include not only the EPS but other resources 45 years or older within the project area of analysis (PAA) established by staff (Figure 1), applying the CEQA historical significance criteria contained in Public Resources Code, section 21084.1, and Title 14, California Code of Regulations, section 15064.5(a). Recordation shall be on DPR 523 forms, including applicable evaluation and detail forms. Aside from establishing the historic context of the power station, recordation and evaluation shall include the entirety of the EPS, as well as built environment resources 45 years or older within the PAA as established by staff (Figure 1). Staff has provided a list of resources identified in the PTA as well as resources identified as potentially of historic age by staff (Cultural Resources Tables 1 and 2). Staff expects all of these resources, and others not identified by staff within the PAA, to be investigated.

38. The AFC submitted for the licensed CECP included a literature search consistent with Title 20, California Code of Regulations, sections 1704 and 2012, Appendix B(g)(2)(B). That literature search identified records in a one-mile radius of the project through July 5, 2007. Seven years have elapsed since the initial records search was conducted and new studies may have been recorded in the interim which provide additional information for staff's analysis of the PTA. Please conduct a literature search update to identify cultural resources within a one-mile radius of the project site, inclusive of the project site. The search shall only include records filed after July 5, 2007, when the initial records search was completed for the AFC

(CH2M Hill 2007). This search shall not be limited to the Office of Historic Preservation's South Coast Information Center at San Diego State University, but shall also include records housed at local agencies, state agencies (such as Caltrans and the California Coastal Commission) and other previously completed studies as may be found at online listings such as CEQANET, http://www.ceqanet.ca.gov/. This record search effort may be combined with Archaeological Data Request 1 and should be submitted under confidential cover.

39. Prepare a cultural resources inventory report that conforms to the standards described in Title 20, California Code of Regulations, sections 1704 and 2012, Appendix B(g)(2)(C). The report for the built-environment resources does not need to be submitted under confidential cover and non-confidential filing is preferred for best public participation.

Cultural Resources Table 1
Built Environment Resources Surveyed for 07-AFC-06 and Petition to Amend

Resource	Associated Structures	Year Built	Surveyed	Evaluated*	Citation
ATSF tracks	Railroad tracks	1882/1906	Yes	Yes; not eligible	JRP 2007:19
Encina Power Station (EPS)			Yes	Yes; not eligible	JRP 2007, 2014
	Units 1, 2, & 3 (D)	1954,1956, 1958	Yes	Yes; not eligible	JRP 2007, 2014
	Units 4 & 5 (D)	1974, 1978	Yes	Yes; not eligible	JRP 2007, 2014
	Fuel Tanks 1-2 (D)	1954,1956	Yes	Yes; not eligible	JRP 2007, 2014
	Fuel Tank 4 (D)	1972	Yes	Yes; not eligible	JRP 2007, 2014
	Fuel Tanks 5-6-7 (D)	1972, 1975, 1977	Yes	Yes; not eligible	JRP 2104
	Paint Storage Building	ca. 1985	Yes	Yes; not eligible	
	Administration Building (D)	1985	Yes	Yes; not eligible	JRP 2014
	Equipment Bay Building (D)	1954-1978	Yes	Yes; not eligible	JRP 2014
	Wastewater Storage Tanks (D)	ca.1985	Yes	Yes; not eligible	JRP 2014
	Compressor Building (D)	ca. 1970	Yes	Yes; not eligible	JRP 2014
	Machine Shop Building (D)	ca. 1970	Yes	Yes; not eligible	JRP 2014
	Storage Building	ca. 1970	Yes	Yes; not eligible	JRP 2014

Resource	Associated Structures	Year Built	Surveyed	Evaluated*	Citation
	Exhaust Stack	1978	Yes	Yes; not eligible	JRP 2014
	Encina Substation 1 & 2	1954, 1975		Yes; not eligible	JRP 2014
	Cannon Substation	1968–1976/1976–1984[2]	**Yes; see Table 2**	No; less than 50 years old in 2007, not evaluated in 2014	JRP 2007:i,17
	Control Houses (D)	1954, 1958	Yes	Yes; not eligible	JRP 2014
	EPS Power Plant Seawater Intake Structure Partial (D-partial)	1954	Yes	Yes; not eligible	JRP 2014
	EPS Outflow Pond	1954	Yes	Yes; not eligible	JRP 2014
	Security Building	1954	Yes	Yes; not eligible	JRP 2014
	Dredge Dock	ca. 1954	Yes	Yes; not eligible	JRP 2014
	Gas Turbine Generator	ca. 1970	Yes	Yes; not eligible	JRP 2014
	Hazardous Waste Building	ca. 1985	Yes	Yes-not eligible	JRP 2014
	Substation Expansion Area (D)	Unknown	**No; see Table 2**	No	Carlsbad Energy Center 2014a:2-4
	Railroad Spur	Unknown	**No; see Table 2**	No	Carlsbad Energy Center 2014a:2-4
	Carlsbad Aquafarm in Agua Hedionda Lagoon	Unknown	**No; see Table 2**	No	Fishchoice.com 2013; Thai 2013

***** Significance evaluations made by JRP and Carlsbad Energy Center provide recommended eligibility; only the lead agency (Energy Commission, in the present case) can make significance determinations under CEQA.

[2] JRP 2007 states different dates on pp. i and 17.

Cultural Resources Table 2
Built Environment Resources in the PAA[3]

Resource	Associated Structures	Year Built	Surveyed	Evaluated	Citation
Encina Power Station (EPS)					
	Railroad Spur	Unknown	No	No	Carlsbad Energy Center 2014a:2-4
	EPS Discharge Tunnel and Channel	Unknown	No	No	Carlsbad Energy Center 2014a:2-37, 38
	Substation Expansion Area (D)	Unknown	No	No	Carlsbad Energy Center 2014a:2-4
	Carlsbad Aquafarm in Agua Hedionda Lagoon	Unknown	No	No	Fishchoice.com 2013; Thai 2013
ATSF Railroad	Bridge over Agua Hedionda	1950	No	No	JRP 2007:16
	Tracks	1882–1906	Yes	Yes; not eligible	JRP 2007:19
SDG&E Cannon Maintenance Yard (Parcel 5)	May be relocated	Unknown	No	No	Carlsbad Energy Center 2014a:2-37
	Domestic Potable Water Tanks-2 (D)	Unknown	No	No	Carlsbad Energy Center 2014a:2-37
PCH-Carlsbad Boulevard	TBD	Unknown	No	No	
Cannon Road	TBD	Unknown	No	No	
State Beach(es)	TBD	Unknown	No	No	
Carlsbad Strawberry Company /Parcel	TBD	Unknown	No	No	
Pipeline Crossing Agua Hedionda	TBD	Unknown	No	No	
Transmission Lines & Structures North-South	TBD	Unknown	No	No	
Transmission Lines East-West	TBD	Unknown	No	No	

[3] (D): to be demolished as part of project

REFERENCES CITED

CECP 2014a—Carlsbad Energy Center, with CH2M Hill. *Petition to Amend Carlsbad Energy Center (07-AFC006C)*. May. Submitted to Dockets Unit, California Energy Commission, Sacramento. TN 202287-2

CECP 2014b—Carlsbad Energy Center, with CH2M Hill. *Petition to Remove Obsolete Facilities to Support Construction of the Carlsbad Energy Center Project CEC License for the Carlsbad Energy Center Project, Carlsbad, California (07-AFC-06C)*. April. Submitted to Dockets Unit, California Energy Commission, Sacramento. TN 202267.

Carlsbad Energy Center et al. 2008—Carlsbad Energy Center, Shaw Stone & Webster, and CH2M Hill. *Carlsbad Energy Center Project (07-AFC-6) Project Enhancement and Refinement Document*. July. CH2M Hill, Sacramento, CA. On file, Dockets Unit, California Energy Commission, Sacramento. TN 47257.

CEC 2009—California Energy Commission. *Final Staff Assessment, Carlsbad Energy Center Project Application for Certification (07-AFC-6), San Diego County*. November. Sacramento, CA. CEC-700-2008-014-FSA. On file, Dockets Unit, California Energy Commission, Sacramento. TN 54068.

CEC 2012a—California Energy Commission. *Carlsbad Energy Center Project: Commission Decision*. June. Sacramento, CA. CEC-800-2011-004-CMF. 07-AFC-6. On file, Dockets Unit, California Energy Commission, Sacramento. TN 66185.

CH2M Hill 2007—CH2M Hill. *Application for Certification, Carlsbad Energy Center Project*. 2 vols. September. Prepared for Carlsbad Energy Center, Carlsbad, CA. On file, Dockets Unit, California Energy Commission, Sacramento. 07-AFC-6. TN 42299.

Fishchoice.com 2013—Fishchoice.com. *Carlsbad Aquafarm, Inc-Carlsbad Aquafarm Cultivates a California Flavor*. February 28.

Helton 2007—Clint Helton. Technical Memorandum: Confidential Carlsbad Energy Center Project (CECP); Cultural Resources Assessment. July 17. CH2M Hill. Prepared for Carlsbad Energy Center, Carlsbad, CA. Appendix 5.3F in *Application for Certification, Carlsbad Energy Center Project*, by CH2M Hill, Vol. 2. September. Prepared for Carlsbad Energy Center, Carlsbad, CA. On file, Dockets Unit, California Energy Commission, Sacramento. 07-AFC-6. TN 42299.

JRP 2007—JRP Historical Consulting. *Historic Resources Inventory and Evaluation Report, Carlsbad Energy Center Project*. July. Davis, CA. Prepared for CH2M Hill, Santa Ana, CA. Appendix 5.3B in *Application for Certification, Carlsbad Energy Center Project*, by CH2M Hill, Vol. 2. September. Prepared for Carlsbad Energy Center, Carlsbad, CA. On file, Dockets Unit, California Energy Commission, Sacramento. 07-AFC-6. TN 42299. Also included in JRP 2014.

JRP 2014—JRP Historical Consulting. *Historic Resources Inventory and Evaluation Update Report, Carlsbad Energy Center Project, Encina Power Plant*. March. Prepared for CH2MHILL. On file, Dockets Unit, California Energy Commission, Sacramento. 07-AFC-6. TN 202699.

Magorien 2006—D. Scott Magorien. *Geology, Soils, Seismicity, and Environmental Assessment EIR, Encina Seawater Desalination Project*. March 10. D. Scott Magorien Engineering Geologist, Newport Beach, CA. Prepared for RBF Consulting, Ontario, CA. Appendix 5.4A in *Application for Certification, Carlsbad Energy Center Project*, by CH2M Hill, Vol. 2. September. Prepared for Carlsbad Energy Center, Carlsbad, CA. On file, Dockets Unit, California Energy Commission, Sacramento. 07-AFC-6. TN 42299.

OHP 1990— Office of Historic Preservation (California). *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*. February. Sacramento, CA. Electronic document, http://ohp.parks.ca.gov/pages/1054/files/armr.pdf, accessed May 5, 2014.

OHP 1991—Office of Historic Preservation. *Guidelines for Archaeological Research Designs*. February. Preservation Planning Bulletin 5. Sacramento, CA. Electronic document, http://ohp.parks.ca.gov/pages/1069/files/arch%20research%20design.pdf, accessed May 5, 2014.

OHP 1995—Office of Historic Preservation. *Instructions for Recording Historical Resources*. March. Sacramento, CA. Electronic document, http://ohp.parks.ca.gov/pages/1054/files/manual95.pdf, accessed May 5, 2014.

Smallwood 2005—Josh Smallwood. Letter Regarding Archaeological/Paleontological Monitoring of Boring Activities, San Diego County Water Authority's Seawater Desalination Project, Encina Power Station, city of Carlsbad, San Diego County, California, CRM TECH Contract #1724. December 20. CRM TECH, Riverside, CA. Prepared for RBF Consulting, Irvine, CA. On file, South Coastal Information Center, California Historical Resources Information System, San Diego. Study Smallwood 05-01.

Thai 2013—Minerva Thai. Much Ado About Fooding Online Blog by Minerva Thai *Meet Carlsbad Aquafarm: A Deep Dive into Oyster Farming (Part IV)* Monday, September 30.

Technical Areas: Public Health and Worker Safety/Fire Protection
Author: Alvin Greenberg, Ph.D.

BACKGROUND

Staff has several concerns about the potential impacts of demolition activities at the Encina Power Station (EPS). Both on-site workers and the off-site public could potentially experience a significant impact from the presence and/or off-site transport of toxic substances that may exist within the 400-ft stack, the power station, and the soils, pipelines, and equipment beneath and around the power station. The EPS has been in operation since 1954 and burned bunker fuel for decades before switching to natural gas in 1972. It is well known that bunker fuel (also known as fuel oil no. 6, or Bunker B) is obtained from the heavy gas oil cut or a blend of residual oil with enough no. 2 oil to adjust viscosity. This will result in the release of unburned hydrocarbons, including Polycyclic Aromatic Hydrocarbons (PAHs), many of which are carcinogenic, and metals such as cadmium, lead, and arsenic (all of which are highly toxic and carcinogenic). In addition, past uses of Polychlorinated Biphenyls (PCBs) at the EPS facility may have resulted in leaks and spills (some of which were documented to have occurred) within and around the power plant buildings, storage tanks and ancillary electrical components.

During demolition activities, these toxic compounds may be released onto the site and/or become airborne and migrate to and deposit on nearby off-site locations and receptors. This could especially be more likely to occur if the decision is made to demolish the 400-ft EPS stack using implosion methods.

In order to be able to fully assess these impacts to both on-site workers and the off-site public, staff needs more information about the extent of contamination on the EPS site, the nature of and extent of any contamination within the stack, the potential for any release of toxic or carcinogenic substances at higher elevations of the stack if the method of stack removal chosen involves a combination of explosives and mechanical means, the extent and nature of contamination within the buildings and outdoor areas, the precise method(s) proposed for demolition of the stack and the EPS main building, and any contemplated or planned approaches to controlling movement of contaminated equipment, material or soils off the site.

DATA REQUESTS

40. Please provide information describing the exact nature of the materials that make up the 400-ft stack, both internal and external construction, including the specific type and composition of the inner steel lining of the stack; it's thickness, how it is attached to the brick/cement masonry, and if the inner steel lining is welded together as one contiguous piece, or if numerous individual pieces are bolted together; also important to understand is if *space* exists between the steel liner and the bricks or concrete superstructure, and if so, what are the dimensions.

41. Please provide the results of any past or recent sampling and analysis that identified the levels of any toxic contaminants within the stack, whether the stack

has ever been “swept” (cleaned) and, if so, when; and the number of years that fuel oil (or other fuels other than natural gas) were burned at the EPS.

42. Please provide more details regarding stack removal beyond those listed in Data Response, Set 1 (numbers 1 through 30, tn:202938) filed on August 15, 2014, beginning with specifics on the type of mast climbing work platforms (MCWPs) or “engineered mast climbing platform” as referred to in Data Response, set 1, number 3. Will a MCWP safely allow for mechanical demolition work to be conducted by either work crews or robotic machines? Given that MCWPs can be potentially hazardous due to their relatively new use in many parts of the country, and because they require specific and specialized industry training in assembly, disassembly and operation, please describe the safeguards you will require to assure that worker safety and public health is prioritized. Please also describe the specific type of robotic machines that can safely navigate these hazardous platforms hundreds of feet in the air; and their past use on other large, industrial demolition projects of similar scope. Given the scope of this work and necessary safeguards that must accompany it, please confirm that a five-month demolition schedule is realistic. Please also describe any consultation with private engineering firms that have successfully demolished large structures such as the EPS exhaust stack via MCWP-supported robots and work crews. Lastly, given their role in this process, please also provide more details on the mechanical robots that will navigate these massive elevated platforms, and provide summaries of discussions with consultants and engineering firms who have successfully utilized MCWP’s, robots and work crews to demolish large structures such as the EPS stack.

43. If implosion of the stack is proposed, please describe the approach to be used to ensure that stack debris would not fall on the EPS buildings or the 138kV /230kV switchyard immediately east of the EPS building (which could be transferring 632 MW’s of CECP-generated electricity onto the SDGE transmission system during demolition activities).

44. Please provide information about whether the steel would be removed before or after implosion (if that method of stack demolition is chosen), how it would be removed, and what method would be used to reduce the steel liner to smaller pieces (mechanical or welding-torch cutting).

45. Please provide the method and emergency contingency efforts currently contemplated for the demolition of the EPS main building via either mechanical or implosion methods.

46. Please provide a Phase II Environmental Site Assessment for the EPS grounds including any bare soil on the site, the surfaces of concrete structures (both surface and subsurface structures) that would be exposed once the building and stack are demolished and the material removed from the site, and any contaminants in subsurface soils.

47. Please provide the method(s) proposed to ensure that no fugitive dust would migrate from the site during demolition and removal of the stack and the EPS buildings.

Technical Area: Soil and Water Resources
Author: Mike Conway

BACKGROUND – Reclaimed and Potable Water Supply

In the May 2, 2014 Petition to Amend (PTA) the Carlsbad Energy Center Project (CECP), the Carlsbad Energy Center, LLC, (Petitioner) has presented two feasible alternatives to supply industrial water needs for the reconfigured, simple-cycle Combustion Turbine Generator (CTG) configuration: recycled water and desalinated water produced by the project onsite. State law requires that where recycled water is available, economically and technically feasible to use, and it does not impact any downstream users, it should be the primary water supply for a project. Staff is analyzing whether the recycled water supply currently proposed should be the primary supply for project operation.

The city of Carlsbad (city) 2012 Master Recycled Water Plan anticipates delivery of recycled water to the amended CECP project site. The PTA states the Petitioner will "preferentially" use Title 22 recycled water as the primary water source, while retaining the on-site desalination alternative approved in the licensed CECP (which would be implemented as a backup water supply in the event reclaimed water is unavailable). The PTA Appendices 2A (city settlement agreement) and 2B (city support letter) provide greater details and specifics on the city's planned source of reclaimed water: the expanded Carlsbad Water Recycling Facility (CWRF), which is owned by the city's Carlsbad Municipal Water District (CMWD) and operated by the Encina Wastewater Authority (EWA).

In addition to desalinated water as a secondary means of supply, the PTA also indicates the availability of potable water from CMWD as a third supply option. It does not appear the city has officially committed to supplying the CECP project with either recycled water or potable water necessary for project construction and operation. No "will-serve" letter was provided in the PTA. A will-serve letter is typically required during the Data Adequacy phase of the Commission's site certification and licensing process to demonstrate a viable and adequate availability of the primary water supply.

PTA Appendix 2B discusses the construction of the Agua Hedionda Lift Station and Sewer Line project, which will include a recycled water pipeline originating at the CWRF in the EWA Control Facility complex 1.5 miles south of the EPS, and terminating at Cannon Road/Avenida Encinas. Staff understands that the environmental compliance for this section of the pipeline was permitted by the city as part of the Lift Station project approval process. The remaining 3,700-ft. segment of the pipeline would extend delivery of CWRF-recycled water from Cannon Road (first by tunnel under Cannon Road, and then along the Avenida Encinas ROW) before entering the amended CECP site north of the relocated control switch room along the facility's western edge.

Staff is analyzing whether recycled water can be made available and delivered on time (and in sufficient quantities) for purposes of the amended CECP construction schedule, as well as meeting the 336 afy operational requirements of the reconfigured power plant (uses to include evaporative cooling and air emissions control).

DATA REQUESTS

48. Please provide a will-serve letter from the city of Carlsbad (Carlsbad Municipal Water District) that states recycled water from its Carlsbad Water Recycling Facility (CWRF) will be available in sufficient quantities throughout the operational life of the amended CECP project.

49. Please provide a month-by-month water needs matrix for the 24-month amended CECP construction schedule. The matrix should include the quantities of recycled water, seawater (for desalination) and/or potable water necessary for this phase of the project in gallons/minute (gpm) or acre-feet/year (afy).

50. Please also provide a month-by-month water needs matrix for the 36 month EPS decommissioning and demolition schedule (including the 12 month equipment removal and demolition-preparation period, the 22 month, 7-step above-ground facilities demolition period, and the 2-month site grading and contouring period). Like the matrix above, please indicate the approximate quantities of reclaimed (recycled) water, seawater (for desalination) and/or potable water necessary for this phase of the project in gallons/minute (gpm) or acre-feet/year (afy).

51. Please provide a will-serve letter from the Carlsbad Municipal Water District that states that potable water will be available for the amended CECP purposes in the event neither reclaimed (recycled) water or desalinated water are available.

52. Please provide a complete schedule and description for the construction of all sections of the recycled water pipeline that would deliver reclaimed water from the city-owned CWRF (1.5 miles south of the EPS site at the Encina Wastewater Authority Control Facility) to the amended CECP site. The schedule should include the particulars for the city-approved and financed section of the pipeline (the CWRF to Cannon Road line permitted as part of the Agua Hedioda Lift Station and Sewer Line project approval process); and, the 3,700-ft section from Cannon Road along Avenida Encinas to the amended CECP site proposed as part of the Petition to Amend the Carlsbad Energy Center Project license.

Technical Area: **Traffic and Transportation**
Author: Andrea Koch

BACKGROUND: PEAK CONSTRUCTION TRIPS OR AVERAGE DAILY TRIPS

As described in Sections 5.12.3.1.1 “Workforce Trips” and 5.12.3.1.2 “Truck Trips”, Table 5.12-3 on page 5.12-4 of the Petition to Amend (PTA) appears to show peak construction traffic conditions. However, Section 5.12.3.1 “Construction Project Trip Generation” describes the table as showing average daily trips (ADT).

DATA REQUESTS

53. Please clarify whether Table 5.12-3 shows peak construction trips or other information.

54. If the table does reflect peak trips, please provide the number of average daily trips during an average construction day for both construction workers and trucks.

55. According to page 5.12-4 of the PTA, peak construction worker trips would occur during Month 13 and peak truck trips would occur during Month 6, but both of those conditions are shown in Table 5.12-3 as if they would occur simultaneously. Please explain this ambiguity. Is this just to show worst-case conditions?

BACKGROUND: ENCINA POWER STATION (EPS) DEMOLITION

Section 2.2.2 of the PTA states that EPS demolition would occur after achieving commercial operation of the amended Carlsbad Energy Center Project (CECP), but it does not specify exactly when demolition activities would commence.

DATA REQUEST

56. Please state the length of time between the start of commercial operation of the amended CECP and the beginning of EPS demolition.

57. Please specify the number of truck trips necessary for demolition of above ground fuel oil storage tanks (ASTs) 1, 2, 4, 5, 6, and 7. The April 29, 2014 Petition to Remove (PTR) seeks permission and includes truck trips necessary to remove ASTs 1, 2, and 4 (that would be demolished with ASTs 5, 6, and 7, which were already permitted for removal in the May 31, 2014 Final Decision for the licensed CECP). The PTR does not include the expected truck trips associated with the removal of all ASTs (1, 2, 4, 5, 6, and 7). It would be helpful for staff to know the combined number of truck trips associated with removal of all of these tanks, assuming that tank removal occurs simultaneously prior to construction of the amended CECP.

Technical Area: Visual Resources
Author: William Kanemoto

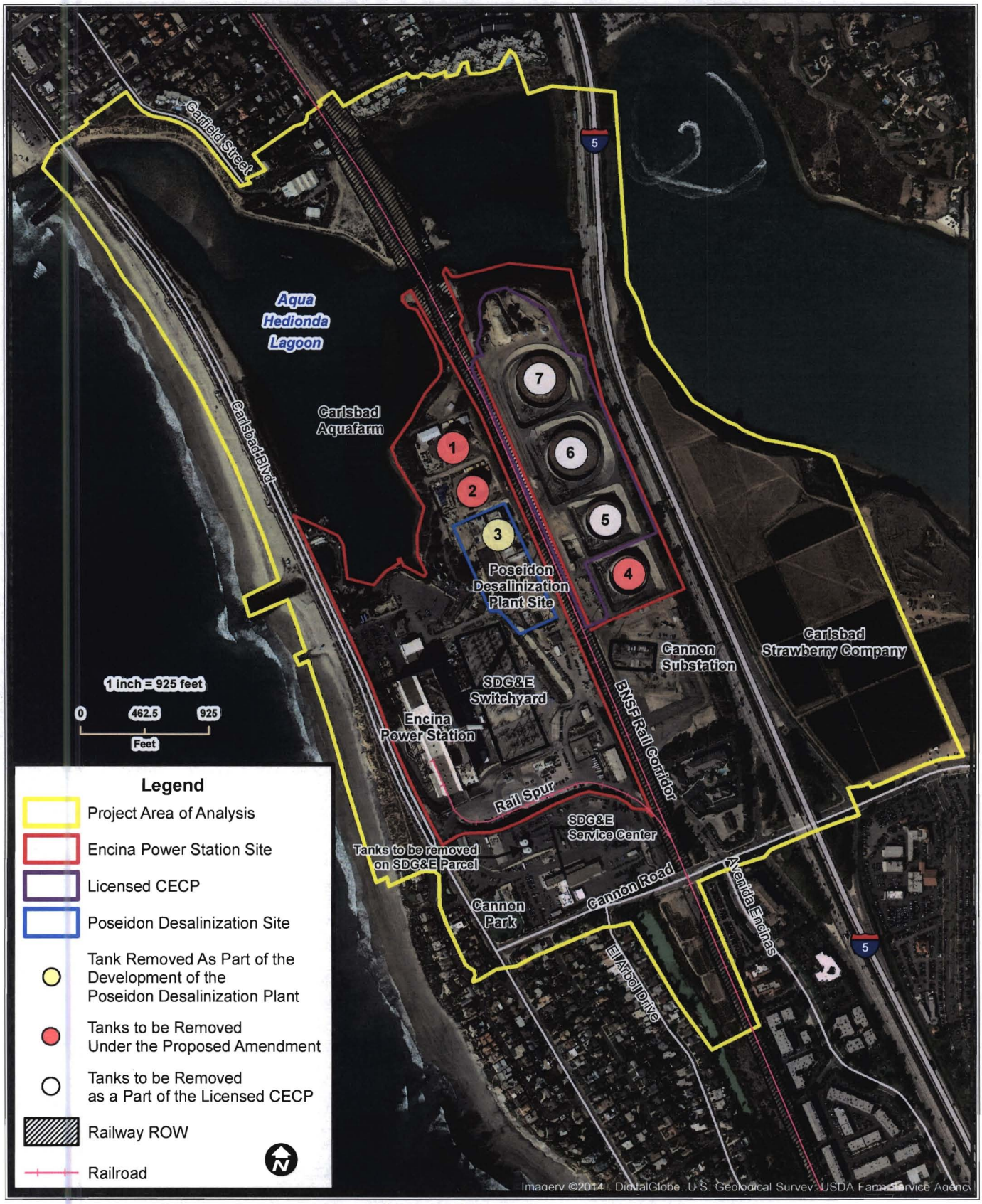
BACKGROUND

Visual simulations provided in the Petition to Amend (PTA) omitted several KOPs used in the 2009 Final Staff Assessment (FSA) to analyze key sensitive receptor viewpoints for the proposed Carlsbad Energy Center Project (CECP). In order to support and effectively communicate the analysis of all KOPs in the PTA Preliminary Staff Assessment, staff requires simulations for the amended project that includes every KOP analyzed in the November, 2009 CECP FSA for purposes of consistency and uniformity. The omitted KOPs include KOPs 8, 9, 10, 11.

DATA REQUEST

58. Please provide simulations for the proposed amended CECP from KOPs 8, 9, 10 and 11 (KOP locations/base photographs as presented in staff's FSA, as presented in November of 2009).

CULTURAL RESOURCES - DR - FIGURE 1
Carlsbad Energy Center - Project Area of Analysis for Built Environment Resources



CALIFORNIA ENERGY COMMISSION - SITING, TRANSMISSION AND ENVIRONMENTAL PROTECTION DIVISION
SOURCE: CH2MHILL Figure 1-1 (07-AFC-06) Petition to Amend - Amendment No. 1, & Google Basemap